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# THE

# PHYTOLOGIST.

## A BOTANICAL JOURNAL.

Ὡς ἐμεγαλύνθη τὰ ἔργα σου, Κύριε!—πάντα ἐν σοφίᾳ ἐποίησας.

ΨΑΛΜ. ργ'. 24.

Benedicite universa germinantia in terra Domino; laudate et superexaltate EUM in secula.—*Hymn. iii Pueror. v.* 76.

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## LANCASHIRE BOTANY.

*Plants of Southport.* *By* JOHN WINDSOR.

On the 21st of August, 1862, accompanied by a young and ardent botanist, I visited Southport, a well-known marine locality on our Lancashire coast. From being a small village some thirty or forty years ago, it has rather rapidly extended itself, and become now comparatively a large and populous town, presenting a very gay appearance on a fine summer's day like that on which we visited it. At that season of the year especially, it is much frequented by the inhabitants of Liverpool, Manchester, etc., partly for health, and partly for pleasure. A few years since, I had an opportunity of visiting it several times, and noticing some of its botanical productions; but on this occasion I found that spots where I had before seen several interesting plants were now occupied by human habitations, already erected, and many others in the process of construction.

Notwithstanding the great increase and striking changes in the town itself, Southport and its neighbourhood within a few miles may still be justly considered to afford a rich field for botanical exploration. I shall now proceed to enumerate the plants which have there presented themselves, adding to my own list the names of some others, specimens of most of which I have this year received from my friends Mr. Richard Buxton (the author of the 'Manchester Flora') and Mr. Edward Leeds. I may take this opportunity of stating that the latter gentleman has a garden at Stretford, near Manchester, rich in the cultivation, not only of numerous exotic, but of many rare British plants.

Immediately after our arrival at Southport, about eleven o'clock A.M., we started through the town to the north shore and its neighbourhood, to some distance towards the embouchure of the river Ribble, which separates it from the opposite shore of Lytham.

Of the plants enumerated below, some I collected this year, which I had not previously met with at Southport, and others which I had formerly seen did not present themselves in their old localities on this occasion; but as most of them have been found by others this season, I shall record them here.



BRITISH MUSEUM

*Lycopsis arvensis* abounds at Southport; *Cynoglossum officinale* is also found there. *Echium vulgare* I have seen plentifully on former occasions, but did not meet with it this time. Several specimens of *Beta vulgaris* I met with in a field, but it might have originated in a neighbouring garden. *Gentiana Amarella* was tolerably abundant, as also were *Chlora perfoliata, Erythræa pulchella, E. littoralis,* and *E. Centaurium.* The last was very variable in its stature, being in some cases very short or stunted, in others attaining its usual height, intermediate forms also occurring. I did not on this occasion meet with *E. latifolia,* but it has been seen in the neighbourhood this and in former years, although not in flower. In a rather low, damp field, our attention was attracted by plants growing prostrate on the ground; the first specimen I saw had no flowers, but soon others presented themselves with fine yellow blossoms, and I then recognized it as *Mimulus luteus,* apparently quite spontaneous, and at some distance from the town *Aster Tripolium* occurred; not far from the same locality also *Plantago maritima, Triglochin maritimum, Sagina nodosa, Epilobium tetragonum, Salix Helix* and *S. argentea, Veronica Anagallis, Glaux maritima, Euphorbia Paralias* and *E. portlandica,* in another place; *Bidens cernua, Alisma ranunculoides, Parnassia palustris, Samolus Valerandi, Cakile maritima, Epipactis palustris, Orchis latifolia, Sparganium simplex, Juncus acutiflorus* and *J. obtusiflorus, Carex arenaria, Equisetum palustre, E. hyemale,* and *E. variegatum,* not far off, were met with; *Trifolium arvense* abundantly; *Erodium cicutarium, Anthyllis vulneraria, Lychnis Githago, Carlina vulgaris, Ononis arvensis, Reseda Luteola, Vicia angustifolia, Thrincia hirta, Festuca uniglumis, Phleum arenarium, Festuca rubra,* abundant; and *Agrostis alba,* var. *subrepens* (Bab.), *Spiranthes autumnalis, Samolus Valerandi,* etc., had been previously collected near Southport.

In returning from the north shore and its vicinity, we diverged to some distance on the old Manchester road to look for *Bartsia viscosa* where I had formerly seen it, but on this occasion did not find it. I have specimens however of it, gathered this summer near Southport, both by Mr. Buxton and Mr. Leeds.

In rambling along the sea border of the town, I looked in vain for the beautiful *Convolvulus Soldanella* where I had for-

merly seen it, also for *Pyrola rotundifolia*, var. *bracteata* or *maritima*, and for *Sisymbrium Sophia*, of which I had once seen plenty here. Of the two latter, however, I have received specimens gathered this year, near Southport, by Mr. Buxton, who has visited the town and neighbourhood twice during the last summer, spending some time, and whose accuracy may be relied on. I may take the opportunity here of stating that I have been informed of the existence of a 'Southport Flora,' which however I have not seen, and I am sorry to add that my informant, who had seen it, considered it to be by no means altogether trustworthy. In the latter part of the day I spent an hour or two in the south part of the town and its vicinity, collecting here a few additional plants, as *Saponaria officinalis*, (*S. Vaccaria* was seen by a friend of Mr. Buxton, and by himself, on a rubbish-heap about four miles from Southport, last summer,) *Centaurea Cyanus*, *Œnothera biennis*, abundantly; *Medicago sativa*, and some others. *Monotropa Hypopitys*, formerly met with, I did not see on this occasion, but have specimens of it also collected by Mr. R. Buxton. To him also I am indebted for a knowledge of other Southport plants (and of almost all of these I have specimens from him) in addition to those already mentioned, as *Blysmus rufus* and *B. compressus*, *Festuca rubra*, var. *arenaria*, *Festuca bromoides*, *Anagallis tenella*, *Œnanthe crocata*, *Œ. fistulosa*, *Œ. Lachenalii*, *Rumex maritimus*, *Teesdalia nudicaulis*, *Vicia Bobartii*, and *Filago minima*.

In addition to some of the above, Mr. Edward Leeds has shown some specimens collected near Southport in 1862, of *Scirpus pauciflorus* and *S. palustris*, *Rhynchospora alba*, *Catabrosa aquatica*, *Juncus acutiflorus*, *Sparganium simplex*, *Carex panicea*, *C. pilulifera*, *C. extensa*, *C. Œderi*, *Triglochin palustre*, *Myriophyllum verticillatum*, *Pastinaca sativa*, *Salsola Kali*, *Trifolium fragiferum*, *Hypericum quadrangulum*, *Senecio erucifolius*, etc.

The muscological department of botany in regard to Southport has been ably and successfully investigated by Messrs. Wilson, Wood, Marratt, Powell, and Buxton, and I think I am correct in stating the following mosses as growing there, along with some others:—*Bryum cernuum*, *B. uliginosum*, *B. Marratii*, *B. catophyllum*, *B. Warneum*, *Hypnum lycopodioides*, *H. polygamum*, *H. salebrosum*, *H. elodes*, *H. commutatum*, *H. Kneipfii*, and *H.*

***speciosum, Meesia uliginosa, Amplyodon dealbatum, Catascopium nigritum,*** and ***Fissidens bryoides.***

Since writing the above, I have had an opportunity of communicating with Mr. Buxton, who has diligently investigated the botany of Southport, and I have thus been enabled to add considerably to the extent of my list. He adds the following names, omitting some commoner ones:—

*On the North Shore.*

Torilis nodosa.
Cochlearia anglica.
Armeria maritima, and on south shore also.
Euphorbia exigua.
Erigeron acris (plentiful).
Chrysanthemum segetum.
Carduus acanthoides.
Anthemis Cotula (plentiful).
Matricaria Chamomilla (plentiful).
Apium graveolens (plentiful).
Papaver Rhœas.
Papaver Argemone.
Ranunculus hirsutus.
Scirpus maritimus (common).
Chenopodium maritimum.
Salicornia herbacea, and perhaps procumbens; part was erect, part procumbent.
Silene anglica.
Silene noctiflora.
Coronopus Ruellii.
Potamogeton heterophyllus.
Phellandrium aquaticum.
Utricularia minor.
Hydrocharis Morsus-ranæ.
Myrica Gale.
Hordium murinum (rare in the Manchester district).
Ammophila arenaria.
Triticum junceum.

*On the South Shore.*

Ornithopus perpusillus (rather inland).
Myosotis collina.
Gentiana campestris.
Gentiana Pneumonanthe.
Bidens tripartita.
Listera ovata (plentiful).
Epipactis latifolia (plentiful).
Juncus maritimus.
Reseda fruticulosa.
Gnaphalium germanicum.
Radiola Millegrana.
Centunculus minimus.
Raphanus Raphanistrum (plentiful).
Sinapis nigra.
Myriophyllum spicatum.
Cerastium tetrandrum (abundant).
Viola flavicornis.
Vicia lathyroides.
Drosera rotundifolia.
Leonurus Cardiaca.
Lamium incisum.
Lamium amplexicaule.
Arenaria serpyllifolia (abundant).
Anthriscus vulgaris.
Menyanthes trifoliata (abundant).
Rumex Hydrolapathum.
Osmunda regalis.

*Inland.*

Stellaria glauca.
Lythrum Salicaria.
Butomus umbellatus is said to grow at Southport.
Rubus cæsius (abundant on sand-hills).
Kœniga maritima (about 1850, where Promenade now stands).

*Pretty General near Southport.*

Aira caryophyllea (inland).
Aira præcox (inland).
Myosotis versicolor.
Sagina maritima (plentiful).
Salix repens (var. fusca, prostrate, etc.).
Salix Smithiana.
Veronica arvensis (frequent).
Juncus lamprocarpus.
Juncus cœnosus.
Carex intermedia.
Carex distans.
Hieracium umbellatum (very common).
Lemna gibba.
Trifolium procumbens (common).
Hottonia palustris.
Hippuris vulgaris (common).
Linaria vulgaris.
Sium angustifolium.
Urtica urens (abundant).

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## BELGIAN BOTANY.

(Continued from page 390.)

Next morning we set out for Lombartzyde, a locality interesting for rare plants, and with which M. Coemans, one of the Vice-Presidents of the Society, was marvellously well acquainted. Guided by him, we met with the following rare species :—*Carex divisa, Carex distans, Tragopogon porrifolius, Galium tricorne, Asparagus officinalis.* In ditches between this village and Nieuport we observed the *Galium elongatum,* a species spread over all maritime parts, as well as *Scirpus Tabernæmontani.* In cultivated places we saw *Avena fatua* and *Veronica didyma.* Along the borders of the road, *Medicago maculata* and *Senebiera Coronopus* are common. Here and there are scattered *Helminthia echioides* and *Barkhausia taraxacifolia.* This latter exists also at Westende and Middelkerke. On the grassy plots and open places, we observed examples of *Lepturus incurvatus* and *Sagina stricta,* Fries, a new species for the Belgian Flora, due to the researches of M. Crépin, whose piercing eye allows nothing to escape his observation. In similar places we found again *Cerastium tetrandrum, Cochlearia danica, Sagina nodosa, Scirpus pauciflorus.* On reaching the dunes we perceived in the meadows *Erythræa linariæfolia, Glaux maritima, Blitum rubrum, Schœnus nigricans, Scirpus compressus, Carex trinervis.* Along the channel at places often washed by the sea we discovered an exclusively maritime flora; the turf is entirely composed of *Armeria maritima, Glyceria maritima,* mixed with *Spergularia media* (*Arenaria marginata,* DC.), *Plantago maritima, Statice Limonium,* and *Salicornia herbacea.* The high Grass was full of *Aster Tripolium, Juncus Gerardi,* and *Triglochin maritimum.* On the steep grassy banks were observed

*Trifolium maritimum, Lotus tenuifolius, Œnanthe peucedanifolia, Torilis nodosa, Senecio erucæfolius.* Lastly, on the lower parts of the channel we gathered *Artemisia maritima* and *Halimus portulacoides.*

Our boxes overflowing with botanical spoil, we re-entered Nieuport at half-past twelve. At two o'clock the grand meeting was to take place, to which the editor of the 'Stad Nieuport' had invited all the notabilities of the town, by means of an advertisement. The great room of the town-hall had been placed at the disposal of the Society, and on our entry we found it nearly filled. The officers of the garrison with the most influential residents were there, and I hope that they had as much pleasure as we had interest in hearing different points of *cryptogamy* and *phanerogamy* discussed. Well-bred, charitable auditors will be gratified by the homage they pay to science, and by the countenance they give to its cultivators, even although they may be no great adepts in the mysteries of structural, physiological, and systematic botany.

The meeting was opened by a discourse from the President, about Dodoens' influence on botany in the sixteenth century, and on the merits of the remarkable works of L'Obel and Clusius, two other learned Belgians. Curiously enough, a descendant of this last-named botanist assisted at the meeting, in the person of M. De Lescluse, an inhabitant of Nieuport. M. Coemans read a very interesting paper on *cryptogamy*, and M. Crépin's turn came twice to read different *notices*. M. Bommer, who has the care of the Society's collections, gave an account of his observations on the use of scales of Ferns.

The meeting terminated, as a matter of course, by speeches; could it be otherwise? Nothing can prosper nowadays without the accompaniments of oratory, music, and good dinners; and as it is the common-sense and genial way of doing things, we hope our readers will bottle up any sour remarks about the incompatibleness of scientific discussion with social enjoyment, and be content to applaud, or at least not to condemn.

The evening of that day saw us again reunited at the Hôtel de l'Espérance. There were nearly thirty of us at the dinner-table, and like the day before, the most perfect cordiality reigned among us all, young and old.

Having arisen early to arrange our plants of the day before,

and to pack up our luggage, on opening our windows we encountered the discouraging sight of a beating rain, which rendered the streets and squares of the town sadly desolate. Every one was asking—Shall we go or not while this weather lasts? One of our number being bold enough to go down and inspect the sky from the large market-place, came back quite crest-fallen, convinced that the weather was decidedly against us during the rest of the day. However he had met on the road an old jocular fisherman, who assured him that when he had emptied his second morning's glass the rain would cease, but he was not going to take his second drop of brandy before ten o'clock!

To arouse the sleepers, it had been preconcerted that a member of the company should procure a postilion's horn, and sound the *réveille* an hour before the departure. Our friend T——, being somewhat musical, was fortunate enough to discover in the garret of the Hôtel du Pelican, an old trumpet, having perhaps already served at the troubled times of the Belgian communes to call the brave burgesses to the ramparts of Nieuport. At six, the trumpet gave out its plaintive sounds, being admirably in harmony with the desolation of the earth and sky. Fortunately Flora, who patronizes her votaries, succeeded in persuading St. Swithin to interrupt his famous forty days' flood, and Æolus, the king of tempests, let loose his myrmidons from the west.

Notwithstanding wind and tide, we set out at eight o'clock, preceeded by an ass laden with eatables, and confided to the care of old Balthazar. We cast a last and long look at the good little town of Nieuport, which had been so hospitable to us, and shaking hands with our new friends that we were leaving behind, we quickly passed the outskirts of the town. Like vessels knocked about by the wind, we were obliged to take in a reef—in other words to fasten our hats with string or with our handkerchiefs, and button up our coats. The wind was so boisterous that we could scarcely struggle against it and keep on the bank of the channel. On a part of the demolished ramparts, on the western side, we found in abundance magnificent tufts of *Atriplex littoralis*, var. *serrata* (*A. marina*, L.), mixed with *Blitum rubrum* and *Chenopodium murale*, *Papaver Lecoqii* mingled with *Papaver dubium*, *Glyceria distans*, *Hyoscyamus niger*, and numerous splendid tufts of *Fumaria densiflora* in company with *F. media*.

The shallow parts of the channel on the right bank resembled

in every point those of the left, explored the day before. Being a good way behind, we quickened our steps to rejoin the others who were greatly ahead of us, and whose whereabouts were made known to us at intervals by the sounds of the trumpet. We carried in triumph our large tufts of *Fumaria densiflora* to distribute to those who had passed without observing it. On reaching them we went across a dry meadow, where grew the elegant and rare *Anacamptis pyramidalis* and the *Phelipæa cærulea*. Further on, near a little hamlet belonging to the commune of Nieuport, we observed in the moist meadows the following species:—*Orobanche Galii*, (*O. minor* parasite upon the *Erodium cicutarium*,) *Orchis Conopsea*, *Neottia ovata*, *Anagallis tenella*, *Juncus maritimus*. Growing along the edges of the road was *Marrubium vulgare*, in company with several other plants already cited. Leaving these meadows, we went towards the dunes.

These thousands of sandy hills and immense plains of glittering sand, where squalls of wind scarcely allowed us to advance, presented an imposing spectacle. Such a scene cannot be painted either by the pen or brush; it must be seen, to be appreciated in all its grandeur and wild appearance. Now and then the rolling sea would show itself between two projecting dunes, and add new features to the picture of this desert.

Descending once more into the grassy valleys, we saw again *Anagallis tenella*, *Erythræa linariæfolia*, and *Juncus maritimus*. In the same valley we also found *Honkeneja peploides*, *Euphorbia Paralias*, and *Scirpus pauciflorus*.

Having tried in vain, by mounting the highest points, to discover our other companions, we decided, after an hour's exploration amid the howling of the tempest and the sand-drifts, to regain the road where the mule had preceded us. Sea air singularly sharpens the appetite, and we manifested a great desire to inspect the contents of the baskets. From an elevated spot we at last discovered Master Long-ears grazing peaceably on the grass of the plain, imitating in a more profitable manner the example of his masters in their botanical occupations. We hailed the conductor, who appeared as if he wanted to continue his route, and instantly fell like an avalanche on the faithful animal, whose load was soon to become relics, *i.e.* empty bottles, ham and mutton bones, etc. "The hungry stomach has no ears," says a French proverb, so we quickly attacked the eatables laid out on the turf.

The same appetite that had hastened our march was likewise felt by those in our rear, who from a shorter cut did not delay making their appearance. Each one sat down on the grass, and our obliging *maître d'hôtel*, M. M——, distributed with exemplary justice both solids and liquids.

One of the last arrived narrated to us the adventure to which I have already alluded. Whilst he and his party were collecting maritime plants, a keeper approached them with a gun on his shoulder, and accompanied by a huge mastiff, spoke rather rudely to the President, ordering him to discontinue digging up his plant, or he should make him; he even seemed about to present his gun; however, seeing the determined obstinacy of the company, he left swearing, assuring them that he was going to obtain the assistance of the Nieuport *gendarmerie*. I regret not knowing the name of this uncouth individual, so as to hand him over to the execration of all present and future botanists.

We took the road towards Oostdunkerke, in the neighbourhood of which we found *Bromus tectorum* and *Rosa pimpinellifolia*. There our excellent comrade Dr. V—— was obliged to leave us. From Oostdunkerke we arrived at Coxyde, picking up on the road *Fumaria densiflora* and *Trifolium micranthum*, var. We cut across the dunes to *La Panne*, the place where we were to reassemble so as to arrive altogether at *Furnes*, the end of our journey. In the immense tract of dunes between *Coxyde* and *La Panne* the following species are abundant:—*Honkeneja peploides*, *Parnassia palustris*, *Anagallis tenella*, *Euphorbia Paralias*, *Thesium humifusum*, *Herminium Monorchis*, *Epipactis palustris*, *Schœnus nigricans*, *Carex trinervis*, *Ophioglossum vulgatum*. The numerous patches of the white and red *Anagallis* were especially remarkable, as well as the thousand tufts of *Thesium*. Here and there we saw amongst the Grass the microscopical *Equisetum variegatum* and rosettes of *Gentiana Amarella*. We saw also the *Cuscuta Epithymum*, *Lithospermum officinale*, *Senecio sylvaticus*, *Alisma ranunculoides*. A very common plant in chalky soils, bnt not to be met with in the greater part of Lower Belgium, (viz. the Campinian zone), is the *Primula officinalis*, which grows here in the dunes. M. Coemans gathered near the beach a few leaves of *Zostera nana*, a very rare plant in this country. If I had to treat of the zoology of the seashore, I should not omit the multitude of rabbits living on the dunes. Nothing is more

lively than these little creatures browsing the Festucas and tender plants of these places, and to see them surprised at the unexpected presence of a new sort of browsers.

Nature has been very provident in planting on the dunes which border the sea, a multitude of plants having strong rhizomes, which fix together the sands, and thus prevent the waters from submerging the low parts. Among these species I must mention the *Glaux maritima*, whose rhizomes do not appear to be much known, and are undescribed in all my books.

With the exception of a violent west wind, the day had been passably fine, but arrived at La Panne we were caught on the road by a shower, or rather a deluge. Like the rabbits we too were surprised, but unlike them we had no warren near. Before reaching Furnes we were literally soaked to the skin; still we were able to remark in the ditches along the road, *Sium angustifolium*, *Hippuris vulgaris*, and *Juncus obtusiflorus*; in the Flax, *Lathyrus tuberosus*; close to Furnes, *Verbascum Blattaria* and *Trifolium micranthum*.

In a pitiable plight we disembarked at the port, that is at the Hôtel de la Noble Rose, a house bearing a noble name, but, as we found, ignoble in its hospitality. When the first four arrived they gave us a hearty welcome, and prepared a large fire to dry our garments, while our rooms were being prepared. Whilst we were busy wringing our clothes and changing our shoes, the main body of the caravan crowded into the hotel, went upstairs, and took possession of the prepared rooms. The master favoured them at the expense of the first-comers, who had a legitimate right to occupy the first rooms, but were obliged to seek lodgings elsewhere.

Leaving in dudgeon the "Noble Rose," we went to lodge at the Hôtel de la Couronne, nearly opposite, where a good old matron received us in a friendly way, and where the *demoiselles* even lent us garments to put on while our clothes were being dried. *Honni celui qui mal y pense!* At supper, our curious dresses caused no little amount of merriment. Before we were awake the next morning, M. Crépin, who lodged under the same roof, had already visited the town and returned loaded with a large box full of beautiful specimens of *Parietaria diffusa*, gathered on the walls of an old convent.

Having had a hearty breakfast, we arranged our parcels of

plants, and at half-past seven the railway from Furnes to Bruges conveyed some of us towards Ghent, Brussels, and different parts of the country.

I feel assured that every one carried away with him agreeable *souvenirs* of this exciting and successful scientific expedition. As for me and my comrades, we have reasons to think ourselves particularly favoured by the hearty welcome that we received from the President and all the members of the Society, and we desire their acceptance, through this channel, of the lively expressions of our deepest gratitude. H. H. C.

*Gendbrugge lez Gand, August*, 1862.

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## NORFOLK BOTANY.

### *Norwich, St. Faith's, Mousehold Heath.*

(See page 402, vol. vi.)

On Thursday, July 17th, our small party left Yarmouth by the half-past nine o'clock train, for Norwich, whither we arrived in about three-quarters of an hour.

Our first object was the cathedral, which we reached when divine service had just ended. This sacred edifice, as learned topographers would say, is a noble and august specimen of ecclesiastical architecture; and many other similar epithets might be added without danger of exhausting the subject.

No doubt this is all strictly true; it is a venerable pile. It is no servile copy of any similar structure. This would have been impossible, for most of the cathedrals in England were begun about the same time, or in the same century, though finished at different periods. Some of them are not yet finished!

The two principal edifices in Norwich are the cathedral and the castle; the situation of the former is not like a city set on a hill, but humble or lowly, like the genuine followers of the great Founder of our holy religion. The latter, the castle, has a prominent position commanding the entire city. The mother-church, with its lofty spire pointing heavenwards, reminds the pious of their future home; the castle frowns terribly on all transgressors of law,—made for the peace and welfare of society.

From the castle, and from its terraces, complete views of the ancient city of Norwich are obtainable.

Norwich is the city of churches, and in this respect it is like Bristol; and one of these, St. Peter's church, is about the finest in England, except St. Mary Redcliffe, of the western metropolis.

The situation of this modern capital of East Anglia is almost, if not quite superb. The cathedral is nearly central, between the two rivers, for there is a river on each side of the ancient city; but it is probable that the early inhabitants soon found the place too small for them, and the buildings gradually crept up the hanging slopes—for Norwich is surrounded by eminences—and as her hills are well wooded, at a distance the city appears sheltered by woods or by a series of groves.

Our business was rather with the country and its productions than with the civil and ecclesiastical edifices of this county, or even with the picturesque; but in going to St. Faith's, for we were bound thither, we stepped into one of the principal houses in the book-trade to ask our way, and to purchase a small hand-book of the city. We were courteously told the way, and besides, were conducted to the castle by one of the lads of the establishment, whose antiquarian information would be creditable in a professed *cicerone*.

We were directed to go by St. Augustine's gate to the Aylsham Road, and on our way remarked that the remains of bygone ages were fast disappearing, being replaced by more commodious dwellings, and other marks of sanitary improvement.

Ancient names remain, and these alone are the memorials of a past period.

What a number of ideas connected with the religious condition of the kingdom is associated with the venerable name of the Apostle of England, or the still more eminent name, though not so dear to Englishmen, the pious, zealous, and learned Bishop of Hippo, the greatest man of the Western Church.

But if indulgence were given to these reflections of an antiquarian and ecclesiastical nature, our paper would be full ere we reached the description of what we saw when we arrived at St. Faith's.

The geographical relations of this place presented formidable difficulties to us, who were utter strangers in these parts. In

the first place, we had to discover on which side of the city it was situated, whether on the north, or on the east, or on the west, or on the south, or—what was more definite—on what road it was. (*Note.* We were utter strangers in Norwich.) This point was settled, after some close inspection of the map, by younger eyes than belonged to him who had to walk thither. The distance was the next question, and on this point the difference of opinion was extreme: some said it was seven miles, some said six, some five, and one said only four. It is probable that they were all about right, for the first informant was a charioteer, and as it was at the station where he was asked, and as it was six good, *i. e.* long miles, from that point, he was justified in saying seven, for he would have exacted payment for this distance. The others were right, for they reckoned from the places where they were when they gave the information. The good man who estimated the distance to St. Faith's at four miles, evidently intended from St. Augustine's gate.

Our impression was, that when we reached St. Faith's, we should have as much difficulty in finding the marshes or bogs as we had in ascertaining the right way and the exact distance from Norwich. This turned out precisely as we feared.

All the information procurable amounted to this, viz. that there was some rough, or waste, or pasture land, at St. Faith's, some distance beyond the workhouse.

The way from Norwich to St. Faith's is about as straight as the crow flies, and there being no other parish on the road, and only a few detached houses, there was no difficulty in finding it. But the difficulty of finding the marshes or bogs was not lessened by our being at St. Faith's. We found the workhouse or "union" all right, and the pasture-ground beyond, but no bog; only a few marl-holes here and there, and the chief part of the space nearly as firm and dry as the downs above Buckland and Dorking.

We applied to the farmer of the place to help us in this emergency, telling him the whole history of the ancient celebrity of the place when Sir Thomas Brown botanized here more than two centuries ago, and when Sir James Edward Smith wrote the 'Flora Britannica,' more than fifty years since.

He told us that persons did come here to look for plants, and especially referred to a fair visitor, who came periodically to look

for Ferns. He further asserted that he knew of no other bogs; and no doubt he told us the truth, as he appeared to be interested in maintaining the ancient reputation of the place, for he not only very politely conducted us to the chief pits, but went into the spongy swamps to gather anything which we pointed out as desirable. It was not his fault that we did not light upon the proper spot, and enjoy the pleasure of collecting the proper plants.

Before we left Yarmouth for St. Faith's, due inquiry was made about the present condition of these once-celebrated botanical localities; and though we were advised to go to another part of the country, viz. to Flotman or Flordon, we were also informed that St. Faith's bogs were *in statu quo*, viz. as they were in the times of Sir T. Brown and Sir J. E. Smith; and our belief now is, that we have not seen the proper bogs at St. Faith's. This is a discovery which it is humbly hoped some enterprising botanist will make, and he shall be duly crowned with the laurel, and have his heels invested or armed with the botanical spurs—the trophies of success.

The few plants we saw here will soon be entered.

First, on the bank at the roadside, near St. Augustine's gate, close to Norwich, *Medicago falcata* was detected. This is very local, that is, it did not appear so far as half a mile from the gate. (*Note.* The gate was like St. Faith's bogs, invisible.) Another and more widely-distributed plant, was *Verbascum pulverulentum.* This appeared here and there on the roadside, quite as frequently as *V. Thapsus.* It is believed that this fine plant abounds in the lane beyond Gorlestone church, but it was not in flower there in the summer of 1862.

In the marl-pits at St. Faith's we saw *Menyanthes trifoliata,* a common plant in Norfolk; also *Ranunculus Lingua,* far from scarce in watery places, *Pedicularis palustris, Lastrea Thelypteris,* one of the commonest Ferns in this county, were collected.

In a little wood between this waste and another similar one beyond, we saw the Lily of the Valley in countless multitudes.

On leaving the road at St. Faith's for Catton, we got just one specimen of *Nepeta Cataria;* and it might be inferred that the plant is a rare one, for this was the first and the last that we saw in the county.

But as one swallow does not make a summer, so one visit to a county does not justify the visitor in dogmatizing about its productions. There are doubtless many plants in Norfolk that we did not see, and many more Catmints than the solitary one seen at St. Faith's.

At St. Faith's we turned to the left to go by Catton to Mousehold Heath, (here they call it Mussel Heath,) a long and not very interesting walk. We reached the heath in time to see the flag waving behind the butts, the practice-ground of the Norwich riflemen, and were warned by the reports of musketry not to intrude.

In walking from Catton to Mousehold Heath, *Lactuca virosa* and *Verbascum pulverulentum* were found in the lane which unites Mousehold Heath to Norwich.

We arrived in Norwich in time for the last train for Yarmouth, which starts about eight in the evening, very much fatigued, and not very much contented with the results of one of the longest and most expensive of our excursions.

If the advice so often urged upon the readers of the 'Phytologist' had been followed, we should at least have had an easier, if not a more successful day.

This only proves the truth of the trite old saw, viz. that it is easier to give than to take good counsel. It is here repeated for the special advantage of all the readers of the 'Phytologist' who may have the good fortune of visiting Norwich, and who may, by giving ear to the counsels of sage experience, make a better use of their opportunity than their humble servant, the relator.

It has often been our lot to learn that a celebrated or crack locality is like some inscriptions on tombstones, which present the reader with a too flattering character of the deceased. We went to St. Faith's because it appears often in the pages of the 'English Flora,' and in those of the 'Botanist's Guide.' If any person has a fortnight to spare, and means to spend it at Norwich, he may safely spend a day at St. Faith's; but if he has only one day to spare for the city and environs both, he should be content to look into the rivers and ditches between the city and Brandon station, and go to Mousehold Heath; or if his time will permit, he may visit Ranworth Fen, which is not much further from Norwich than St. Faith's. Our belief is, that St.

Faith's bogs lie in this direction, and not near St. Faith's, Horsam; but this is purely a surmise. Some amiable Norfolk reader of this may possibly be induced to tell the writer if his conjecture be right, or set him right if he is wrong. One of the charities of the ancient world, and one of the most practical, useful, and cheapest, is to show strangers their way courteously, *comiter viam errranti monstrare.*

Another suggestion, ere we conclude, is offered to far-off students of East Anglian botany, viz. to make Norwich their head-quarters instead of Yarmouth or Lowestoft. There are several advantages which suggest this. First, there is greater space for excursions in all directions; at Yarmouth the visitor is cut off from one entire side, viz. the eastern, by the sea. He may have twice as many excursions from Norwich as he can have from Yarmouth, without going over the same ground more than once. Again, the number of trains leaving and arriving in the former, renders it more eligible for a botanist. There are two stations at Yarmouth, but only few trains leave in the course of the day. Again, there is a museum and a good herbarium at Norwich, and some one will always be found there to give needful information to a stranger. Lastly, the expense of travelling from Norwich to Yarmouth and Lowestoft was less than from Yarmouth to Norwich.

The following brief remarks are made with the intention of giving strangers some idea of the formation and aspect of Norfolk, one of the largest counties of England. This county possesses but slight inequalities of surface, and has no great variety of soil. It is a series of marshy flats and sandy plains of inconsiderable elevation.

The traveller who enters it *vid* Cambridge, first crosses the Little Ouse, which drains the western parts of the county, apparent by a continuation of the eastern lowlands. The railway crosses Thetford Heath, an immense tract of land which will probably, at no very distant period, succumb to the plough and harrow, and be as celebrated for its barley as it has long been for its rare plants and rabbit-warrens.

Between Harling Road and Wymondham, the railroad passes through a tract which has been long in tillage, and it is tolerably productive. The soil is a light sandy loam, not unfertile, and very easily cultivated.

Near Norwich, on the west, the rich meadows again appear on the two branches of the Yare, which unite below this city, and flow through the centre of the extensive and valuable tract of marsh which extends to Yarmouth.

With the exception of some high land about Buckenham and Reedham, this is a treeless flat, intersected by ditches, and grazed by countless herds of cattle and horses, or it is shut up from cattle, and its produce converted into hay.

The fens appear (invariably?) wherever there is a considerable stream or river. These flats border the Little Ouse, the Yare, the Waveney, and the Bure, and between these broad fens there are narrow strips of cornland or inconsiderably elevated flats, several of which, as about Belton, St. Olave's, Lowestoft, Carton, etc., are still in their natural condition, sandy heaths fringed with boggy meadows.

The produce of the fenny tracts will gradually fertilize the sands which lie between them; and all the lands of Norfolk and Suffolk are destined to produce heavy crops of barley, and sufficient supplies of wheat for their own population, and plenty of oats for their horses.

If we can credit the wonderful revelations of geology,—and they are said to be both credible and incontrovertible,—we may easily comprehend the formation of this county while its fenny parts were many fathoms under water, and its heaths or elevated flats were not quite emerged from the ocean, but were the resorts of myriads of soles, flounders, cod, haddock, herrings, etc. The extent of the Wash, or broad estuary, the common receptacle of all the rivers which drain the eastern lowlands, from Saffron Walden and Bedford on the south, to Lincoln on the north, is constantly diminishing, and the land is consequently increasing. The same change is taking place, though on a smaller scale, about Yarmouth, where the sea is retiring from its margin, and the land is gradually and sensibly increased.

Besides this addition to the sandy shores by the retirement of the sea, or rather by its incessant operation of constructing a barrier against its own restless activities at this particular point, the process, going on far beyond the present roadstead for ships, is probably very much greater. The sandbanks constituting the dangers and terrors of navigation on the Norfolk and Suffolk coasts, when sufficiently elevated, will become islands, and

sooner or later, by the continuous operation of the same causes, will be united to the continent, *i. e.* the adjoining shores, and the present deep channels, or the navigable parts of the sea, will become rivers. Yarmouth Denes will then have a river on each side, viz. a new stream on the east, and on the west, the Bure, which now forms the western limit of this tract, and the sea the eastern. The supply for the new river will be derived from Horsey, Hemsted, etc.; and it is not improbable that in a series of ages that portion of the sea conterminous to the Denes will be dry land, and a new Denes, or barrier of sand, will appear several miles to the east of the existing shore-line.

When the whole of Norfolk was submerged, when Ely was truly an island, and long after, when the Danish king Knut (Canute) turned his ship's head to the shore to hear the matin song of the holy brotherhood, the fens adjoining the three rivers which enter the sea at Yarmouth were covered with water, and were great estuaries like the Wash. They would as easily now be laid under water as the unfortunate parts of the flat country about Lynn and Wisbeach.

Since those remote times, long before the arrival of the Danes, and before the Roman dominion, or about two thousand years ago, some miles have been added to this part of the coast. These changes, however, are often produced in briefer periods. Caistor stands on the extremity of the elevated spot where are now the parishes of Mautby, Ormesby, etc., or, in other words, it was at no very distant period (though probably there are no historic proofs extant of its being in this state) an insular spot surrounded by the ocean, and a calamity similar to that which has befallen the country about Lynn would reduce it to its original insular condition. Suppose the Runham and Caistor marshes were under water, and the Filby broads united to the ocean; this part of the county commanded by Caistor Castle, and containing the churches of Filby, Mautby, the Ormesbys, etc., would be an island, and the most fertile land would be covered with water to the depth of several feet, if not several yards.

The luxuriant vegetation of the brinks, and even the bottoms, of the present ditches, inform us that in a not very long series of ages the present peaty formations of the fens have been produced. The action of the waves on the shores of the sea tell us

how the ancient sandbanks which now constitute the elevated portions of Norfolk have been accumulated.

The drainage of these eastern fens is effected by windmills—not mills, but pumps, worked by the wind. These raise the water from the ditches, and it is conveyed over the bank into the stream or river, which is considerably higher than the level of these flat or depressed tracts. The drainage by sluices, as in Kent, is impracticable, because the land is not yet elevated above the level of the sea at low water, *i. e.* when it is ebb-flood.

Supposing that the sea will retain its present level,—a very probable assumption,—a time will come when the Norfolk fens may be drained as the Kentish fens are now; and at this time, which may not come till many ages have passed away, the latter may have so far been elevated by the silent, though constant, increase of soil, as to be drainable without any mechanical contrivance whatever—merely the force of gravitation, the necessity of the water's flowing towards the lower level, *i. e.* the sea.

The conservators of the Norfolk rivers doubtless prohibit the use of steam as a motive or propelling power. The ripple produced by the agitation of the water, and the rapid passage of vessels through these narrow, though navigable rivers, would wear away the banks, and the preservation of the whole country would be endangered.

Numerous trows, of no very great burden, daily navigate these three rivers—the Bure, the Yare, and the Waveney. These are never tracked, or drawn by horses, as on the Thames, Avon, and other more southern rivers, but are dependent solely on the wind. They are occasionally becalmed, and at bends of the stream they must move their craft by the slow process of pushing them past the bend by long poles. As the rivers are all far above-ground, and the breezes are never impeded by trees and buildings, the trows get the full benefit of it. The use of steam power would facilitate navigation, but it would risk the safety of the banks, which protect the whole country from the calamitous effects of such an inundation as that with which the fens about Lynn and Wisbeach have been so recently visited.

## THE FERNS OF BARMOUTH.

*By the* Rev. W. Walsham How.

To the Fern-student there are very few places equal to Barmouth. The whole neighbourhood is one splended Fern-garden. Even the most unscientific lover of nature must be delighted with the amazing profusion and variety of the Ferns which clothe almost every wall and rock around. The Barmouth Ferns are indeed so enchanting that a short paper upon them cannot fail to be interesting to the readers of the 'Phytologist.' Let us give rightful precedence to *the* distinctively Barmouth Fern, the rare *Asplenium lanceolatum* (Lance-leaved Spleenwort), here happily too abundant, and too difficult to extract, to be much injured by the highway-robbery of rapacious botanists. This Fern grows in large tufts on the south side of the wall, between the road and the estuary on the Aberamfra' Hill. It is also profusely abundant about a mile from Barmouth, on the Dolgelley Road, growing deepset among the loose stones of the wall, on the north side of the road; on the Harlech side of Barmouth it grows, but in no great quantity, on the steep face of rock, by the roadside, half a mile from the town. A few plants may be found in the walls by the roadside, but it is met with in far greater abundance on some low wall close above the shore, below Llanaber church, where it is more easy to procure roots than in most other places. It is frequently mixed with, or close to, its nearest of kin, *Asplenium Adiantum-nigrum* (Black Spleenwort), which to an unpractised eye somewhat resembles it. The rarer Fern is, however, in this neighbourhood, easily recognized from its remarkable convexity, a character not always belonging to it in other places. It is of a darkish green, bent down and curled under (except in young fronds) on each side of the main stem, and seems peculiarly attractive to dust and spiders' webs. Next to this we will name the universal favourite, *Osmunda regalis*, not an uncommon Fern in this district. It is very plentiful and fine on the banks of the Glandwr stream, and occurs near several of the other small streams, as well as in the boggy flats between Barmouth and Dolgelley, and between the Harlech road and the sea. The Beech Fern (*Polypodium Phegopteris*) is to be met with in many places, as in the lanes above Borthwen, by the Glandwr stream

at Arthog, etc. The Oak Fern (*P. Dryopteris*) is much less abundant close to Barmouth, although it may be met with in the stony ground above the Cors-y-gedol lakes, and is most plentiful in the valley of the Mawddach above Llanelltyd. The Parsley Fern (*Allosorus crispus*) is another which is scarce in the immediate neighbourhood, although it is to be seen, mingled with Beech Fern and the pretty *Lastrea recurva* (of which more shortly), on a small length of old wall, not very far from Barmouth, and happily in a very out-of-the-way spot, which we do not intend to particularize further. The *Cistopteris fragilis* (Brittle Fern) grows on Cader Idris, but like the Parsley Fern, which is also there in profusion, may probably be found sparingly nearer to Barmouth. *Lastrea Oreopteris* (Mountain Fern) will be found readily in the lanes above Borthwen, and in many other places. The green Spleenwort (*Asplenium viride*) grows upon Diphwys, and the Sea Spleenwort (*A. murinum*) on the shores of the estuary; but these are in such small quantities that it is better to be rather general in referring to their haunts, with a view to possible peculators.*

Of the commoner Ferns, such as Male Fern, Lady Fern, Hard Fern, Broad Fern, Black Spleenwort, *Polypodium vulgare*, *Asplenium Trichomanes*, and *Pteris aquilina*, there is the utmost profusion. We invite attention to the varieties of Lady Fern, which are worth noticing; but still more to the wide field of study offered by the various species and subdivisions of the Broad Fern. On the peaty ditch-banks in the bogs, especially near Arthog, we find the enormous dark-green scaly-stemmed fronds of the true Broad Fern (*Lastrea dilatata*). It is probably the same species which occurs among the rocks and stones, more or less plentifully on all the hills. Whether the *spinulosa*, the narrow upright marsh species, occurs in the neighbourhood, we are unable to say; it may probably be found. But the walls in many parts abound with dwarf varieties, among which a frequent type is that described by Newman as *Lastrea multiflora nana*. The gem however of this group of Ferns is the lovely *Lastrea recurva*, which seems to grow in this neighbourhood only on walls,

* There can, however, be no harm in mentioning that the latter Fern also grows, *out of reach of depredators*, in some caves below the road between Henddol and Llwyngwril. The *Ceterach officinarum* may be found in small quantities at Llanelltyd.

and only in its very dwarf, bright, crisped, and tufted form. It is to be found on several old walls near Barmouth, and on the Harlech road, between Barmouth and Llanbedr. It grows in very dense tufts, the greater part of the fronds being barren, and of a peculiarly bright vivid green. The outer and larger fronds alone are seed-bearing. Every smallest part of the frond is distinctly concave, which gives the plant its crisped appearance, and at a little distance it might almost be mistaken for the Parsley Fern. The fronds do not exceed a few inches in length. It is hard to believe that this is the same Fern which is found five or six times as large in moist woods, and is sometimes known as *Lastrea Fœnisecii* or *dumetorum*. To us the most expressive name is that suggested by Newman, *L. concava*. It is to be hoped that botanists will be sparing of this pretty Fern when they find it, as it is not very plentiful. We have but one other Fern to mention, the curious Moss-like *Hymenophyllum Wilsoni*, which may be found among the rocks, in the streams on the Cader Idris side of the river, and near Dolgelley, as well as at Pistill-y-Caen. It probably exists in the streams nearer to Barmouth, but we have not seen it ourselves. The other and rarer Filmy Fern (*H. tunbridgense*) is *said* to grow near Barmouth, as also the Adder's-tongue and the Moonwort, but we cannot verify these.

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## *On the Nativity or Spontaneity of* Inula Helenium, Vinca minor, *and* Sambucus Ebulus.

It has been affirmed, in the 'Phytologist,' that Vinca minor and Sambucus Ebulus are entitled at least to the same civic status as that which is assigned to Inula Helenium.

If nativity depend on the unquestioned spontaneous growth of a plant in any one place,—on its wildness, say, in only one locality, in *one* county,—its claims to be ranked among the truly British species are sufficiently valid to entitle it to this distinction. But if its spontaneity or wildness is not confined to one county or single locality, it has surely *à fortiori* still higher claims to be considered a true native.

In the only systematic work on this subject, the distribution of the British species, this principle is most capriciously or pedantically ignored. In the 'Cybele' (see *sub specie Inula Hele-*

*nium*) the first of the three above-named plants is called a *native*, and to this there can be no reasonable objection, even were its spontaneous growth limited to the Isle of Wight and Devon. But if *Inula Helenium* be a native, a fact which is neither asserted nor denied by the author of these remarks, why are not the two latter, viz. the Periwinkle and the Dwarf Elder, also called native? They are called *denizens*, a new-fangled term, which implies that they were aliens in this land some ages or centuries ago, say, in the times of the giants, long before the Romans or even the Phœnicians visited the southern coasts of England. It may be affirmed with all the certainty which is attainable on the subject, that the above-named pair are as much entitled to be called native as the Elecampane; or if they be denizens, or aliens naturalized for many years, so is *Inula Helenium*, and many other plants.

The following facts and remarks are offered to the readers of the 'Phytologist,' to show them the inconsistency of this notion, and the gross delusion of those who believe in the infallibility of the author of the 'Cybele.' Grant that the first-named plant is native, the nativity of the other two must be admitted, on the authority of Mr. Cocker. For one wild plant of Elecampane seen by the writer, hundreds of thousands have been seen of the other two, but especially of the Periwinkle. (See 'Phytologist' for September, 1862.) This will be more satisfactorily proved by the experience and observations of others, viz. the authors of the local floras of Britain, etc. Thirty local lists of plants or floras have been consulted, and the result is that in nine floras all the three species are noticed as equally wild. These local lists are 'Flora Vectensis,' the Flora of Devon, the Flora of Bedford, Oxford, Hertford, etc.

The Periwinkle appears in twenty-five Floras, and its nativity is questioned in but six; one of these in which it is considered doubtful is Tenby, South Wales, and another is Yorkshire; but as Yorkshire is a large county, and as the Periwinkle passes unchallenged both in the Liverpool and Manchester Floras, the reason assigned by the author of the Yorkshire Flora for calling it a suspected denizen or a doubtful alien is not deserving of very great consideration. The source of his inspiration is too manifest to entitle him to implicit credence. He only quotes one station, viz. Storthes Hall, and infers that being an associate of *Saxifraga umbrosa*, allowed to be an introduction here, the Peri-

winkle should follow suit. Some may demur to this illustration of the old proverb, "Birds of a feather flock together"—*Similes similibus congregantur.*

This judgment is however justifiable, on the law laid down by the farmer, who according to the fabulist condemned the pigeon because she was an associate of the rooks, and as guilty of plundering as the birds of the black-feathered races. Do naturalists proceed on these principles in determining the nativity of plants? If so, they should discard the Primrose, the Wood *Luzulas*, and many other unquestioned native plants which are associated in woods with the unhappy *Periwinkle.*

The Dwarf Elder appears in above twenty British local lists, and it is unsuspected in all but three.

If these two plants, *Vinca minor* and *Sambucus Ebulus*, are to be classed among the introductions, the aliens and the denizens, because they are not found growing spontaneously in every district which has a list of its vegetable productions, surely on the same principle and for the same reasons the Elecampane should appear among these doubtful natives or suspected aliens.

This latter species, *Inula Helenium*, does not appear in above one-half of the local lists, and in at least one-half of them it is a questionable native. Besides this, in every one of these districts from which it has been reported as genuine, other localities are produced which are certainly suspicious and where the *Inula* plainly appears to be an escape, as it is called, or found growing in parts where it was formerly cultivated, as, for example, in the grounds of Quarr Abbey, a ruin near Ryde, in the Isle of Wight.

But there is another notoriously exotic species which illustrates the caprice or inconsistency, or what you will, charitable reader, of the author of the 'Cybele,' viz. *Euphorbia Esula*, which never has had any voucher for its native origin. (See 'Phytologist' for November, 1862, p. 349.)

All the Scottish botanists unanimously ignore it as a Scottish species. Smith enters it on Lightfoot's authority (see E. F.), without consulting his predecessor, and the author of the 'Cybele' blindly trusted to this blind guide and entered a plant as a native (?) which does not appear in any local Flora whatever, either as a native or a naturalized species. To this day, it appears to be confined to its old locality, Hulne Abbey walls.

The botanists of Scotland, where the plant is said to grow, are supplied with Northumbrian examples to represent this species in their herbaria.

These remarks are not published with the slightest intention of decrying the only work we possess on this interesting and important subject, but solely with the view of saving our readers from the influence of a strange delusion, viz. that of believing a plant to be a native which does not appear in any local British Flora, and in the great work of Sir J. E. Smith rests on no authority whatever.

The species *Inula Helenium*, *Vinca minor*, and *Sambucus Ebulus* may be safely considered as British plants, if we are to trust the most competent authorities, viz. local botanists, while, on the contrary, *Euphorbia Esula* has no local authority. It would not have been unseen by the late Dr. Johnston, if it had been even a well-established *alien* about Coldstream. QUIVIS.

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## Review.

*The Banffshire Journal* for Tuesday, September 2nd, 1862.

The above-named copy of a Scottish newspaper has been transmitted by our obliging friend and correspondent, Mr. John Sim, of Perth, and the following notices of rare plants and their localities are extracted for the information of our readers in general, and especially for such of them as are acquainted with the 'Northern Flora,' an unfinished work on the botany of Scotland, north of the Tay.

'The lively author of this entertaining and instructive history of a botanical excursion from Banff to Dufftown, etc., tells his readers that he and his companions started by rail, on a Monday morning, after seeing *Sagina maritima*, and one or two species of *Atriplex*, on the seashore.

Several interesting plants grow on the Knock, a round conical hill, which is visible from several parts of Aberdeenshire. On this land and seamark there grow the following rare plants, viz. *Listera cordata*, *Drosera rotundifolia*, and *D. anglica*. Other Knock plants which every collector delights to see, are *Rubus Chamæmorus*, *Genista anglica*, *Hypericum humifusum*, *Orchis maculata*, etc.

The Balloch, near Keith, is described as the botanist's paradise, and the plants in this northern Eden are *Cardamine amara, Adoxa Moschatellina, Paris quadrifolia* (very rare), *Listera ovata, Pyrola secunda, Sanicula europæa, Trollius europæus, Trientalis europæa, Carduus heterophyllus.*

The following anecdote about the recent introduction of turnips into that remote part of our island will remind the readers of Charles Lamb's works of his curious answer to a Hertfordshire farmer about the goodness of the turnips in a certain season. The honest folks of Banffshire knew that turnips were good either with or *minus* the legs of mutton:—

"In passing, let us mark a few things. On that little house at Bridgefoot of Boyndie, tradition has it that Cumberland's men hanged a herd-boy as a spy. But we are past, and now at Mill of Boyndie. It was on that farm that turnips were first seen in Banffshire. They were introduced by the last Lord Findlater. Calling one day on Mr. Milne, he asked him how the turnips were thriving? 'Very well, my Lord, but the people are stealing them all,' was the answer. The good Lord Findlater said for comfort, 'The more they steal the better.' He knew that, as the people learned their good qualities, they would soon grow them for themselves."

The following good remark on the curative properties of the St. John's-worts, *Hypericum hirsutum, H. pulchrum,* etc., may amuse the unbelievers in Dr. Coffin:—

"These plants have many other excellent qualities, in which our forefathers put implicit faith, and by which they were healed of their diseases, rather by the plants having none of the reputed qualities, and thus nature, being left to itself, effected the cure; or perhaps it may be, as Taine, a clever French writer, says, that people got cured of their diseases so long as the medicine had the power!"

Does the clever Frenchman believe that the plant, or drug derived therefrom, has lost its power, or that the patients have lost their confidence in its efficacy?

"Near Botriphne, in Loch Park, were found the following:—*Hippuris vulgaris* (Mare's-tail), one or two species of *Myriophyllum*, with other water plants. In the hills around the loch, grows, in great plenty, *Sanicula europæa* (Sanicle). It is one of the umbelliferous plants, and has glittering dark-green leaves. It receives its name from its supposed healing virtues (from *sano*, to heal). An old writer sums up its virtues in these words:—'And briefly, it is as effectual in binding, restraining, con-

solidating, heating, drying, and healing, as Comfrey, Bugle, Self-heal, or any other of the compounds or vulnerary herbs whatsoever.' "

**There are many whose faith is but small in the healing qualities of these plants, but who will assent to the creed of the good old herbalist "that Sanicle is as effective as Self-heal."**

"The ruins of the Castle of Balvenie yield some botanical rarities. Near the Castle you meet with one of the Winter Greens, *Pyrola secunda?* On the walls grow *Ervum hirsutum*, *Anthriscus vulgaris*, *Matricaria Parthenium* (Feverfew), the last being an introduced plant, but now growing wild in several parts of the country. This plant was held in old time to be under Venus, and to have great healing virtues. Among its other qualities, 'the distilled water taketh away freckles, and other spots and deformities in the face.' Another of the same genus is a most noxious weed in every part, *M. inodora*, with a variety having fleshy leaves, which grows along the seaside. In some parts of the county this plant goes by the name of 'Horse Gowans,' whilst in other parts, another, and a much more handsome plant, the Ox-eye Daisy, bears that name. In a field near the Castle grows *Thlaspi arvense* (Penny-cress), a somewhat rare plant. It gets its name from the form of its seeds, being *flat* pouches. It is named Penny-cress from a fancied resemblance in the size and form of the seed-vessel to a silver penny. It bears also the names of Smooth Treacle or Mithridate Mustard, because it is best for compounding what old medical men called 'Treakle and mithridate, for it is held to be itself an antidote resisting poyson and venome.' The seeds are said to yield more oil than linseeds. The plant has the smell of Garlic, and if cows eat it, it imparts that flavour to the milk.

"We are soon on the road for Tomintoul, eighteen miles ahead of us, with a gloomy sky and wet roads. With stout legs and merry hearts we proceed, and land in Mr. Findlater's duck-pond, a little above the station. It yielded *Bartsia Odontites* and *Juncus bufonius*, both common plants. The fields about Dufftown are gay with Sow-thistle, *Sonchus arvensis*, a tall handsome yellow flower of the *Compositæ*. It, as well as another, *S. oleraceus*, is abundant. Dufftown is soon in our rear, and we are off the highway into every bog, and ditch, and field, but meet with little remarkable. In a bog in a small wood beyond Dufftown, and before coming upon the farm of Lettoch, we meet with our old friend *Drosera rotundifolia*, also *Triglochin palustre*. *Sedum villosum* makes its appearance. It is one of the Stonecrops, so called from their growing on the tops of dykes, and on rocks with a thin coating of soil. Another species, having bright yellow flowers, is abundant. It is *Sedum acre* (Wall Pepper). An old herbalist says: 'It is under the dominion of the moon,

cold in quality, and something binding, and therefore very good to stay defluctions, especially such as fall upon the eyes.'

"Glenrinnes did not yield much. The crops in some parts looked well, but they are somewhat late. The glen has, on the whole, a rather cold appearance. Cultivation has done much, and it will do more, although nature, both in soil and subsoil, and in rock formation, is not very genial. Through the Glack of Braigach, we pass into Glenlivat, and reach Craighead. At the inn here we rested, and partook of refreshment. At Craighead the limestone again appears, and the soil is better. Near the bridge that spans the Tervy we found the Moonwort, *Botrychium Lunaria*, a beautiful Fern; it grows in several places along the road. *Lycopodium selaginoides* also grows here. In a bog a little further along the road, and within about a hundred and fifty yards of the Shenval, we met with *Sedum villosum*, *Gentiana campestris*, *Carex curta*, *C. stellaris*, and others. Near Achorachan grows luxuriantly *Anthriscus sylvestris*, called by the people 'Wild Carraway.' The Livat crossed, we reach Tomnavoulin, and find in a bog above the new school-house one of the *Veronicæ*, or Speedwells. *Veronica scutellata*, a plant we have gathered in the moss of Banff. A little further on we meet with *Genista anglica* and *Arctostaphylos Uva-ursi*, vulgarly called 'Gnashicks.' Evening was now beginning to close, and we hastened on over a very bad road, and through a dreary country, that seems almost to bid defiance to cultivation, although the good folks are doing much to subdue it. Tomintoul is reached in the 'gloamin',' and we make for Mr. John Smith's inn: we find everything very comfortable, and, what gives everything a relish, we meet with great kindness. We were soon at home, and began to gather over again the plants of the day. And here, in these comfortable quarters, and with the prospect of a day of hard toil before us on the morrow, we bid the reader adieu for a time."

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## BOTANICAL NOTES, NOTICES, AND QUERIES.

### Answers and Notices to Correspondents.

Erodium maritimum, Locality of.—The *Erodiums* you ask about were gathered on the eastern side of Penmaen-bach-mawr, and, what is very singular, all three of the British species were growing within twenty yards of each other. I have not my enlarged map at hand, but have put the name as near as I can recollect it.

The letters from Argyleshire have been duly delivered by her Majesty's servants, and the reader's humble servant will soon submit them to the consideration of his constituents. Our correspondent is encouraged to compile a list of the plants of Kintyre, a compact, well-defined district, with a very great extent of seacoast, with some not very inconsiderable eminences on its surface.

We hope to publish a review of the work on Alpine Plants which accompanied the letters.

PETASITES FRAGRANS.—The following, from our excellent Plymouth correspondent, has just arrived:—A few days ago I noticed *Petasites fragrans* in flower at Crabtree, where it was diffusing delicious odours. The observation of Babington, that this plant is "quite naturalized in some places in the south," is applicable to this neighbourhood. I know more stations of it than of *P. vulgaris*, which is not common here.

Our Buxton correspondent informs us that at Buxton "there is a man who trades in botanical rarities, that is, he supplies the visitors with wild flowers, and the consequence is what may be expected, viz. that the *rariores* become *rarissimæ*, and the latter, in process of time, disappear like snow on the mountains in the months of July and August."

This disappearance of rare plants is a local and chronic complaint, for which there is no remedy. Patience is a useless appliance. Many years ago we were informed of the destructive propensities of flower-collectors in Surrey, and requested not to patronize these wholesale *rhizotomists* (root-grubbers): but—alas for sentimentality!—poverty makes people acquainted with strange bedfellows; and cold and hunger, and the cravings of small childer who cry for bread, extinguish the sentimentalities!

Our Sheffield correspondent is to be commended for keeping secret the exact locality of *Achillea decolorans*. Are all who cannot plead poverty as an excuse, innocent of taking from Nature's abundance more than they really want, careless of the claims of posterity, unmindful of the disappointment which their rapacious greed may cause to some future hunter after rare plants? Let Mr. Stevens answer these questions. I have purchased in his sale-rooms, among a moderately-sized bundle of plants, above a hundred examples of one plant confined to the chalk of the south of England. Hundreds of specimens of rare species were disposed of for less than a shilling per hundred. Only last season, May or June, 1862, thousands of specimens of the rarest of British Ferns, collected by a gentleman (so said the catalogue), and his property, were sold at Mr. Stevens's auction-rooms.

## RHYNCHOSPORA.

I take the opportunity of mentioning an *erratum* in the little article headed "Devon Plants," in the December number of the 'Phytologist;' the sentence, as it now stands, conveys a different meaning from what I intended:—"On examining my specimens of *Rhynchospora*, I was struck with the peculiar way in which this plant perpetuates itself," etc. It should be: "On examining my specimens of *Rhynchospora* I was struck with the peculiar way in which this plant perpetuates itself, and increases by forming almost semibulbous shoots within the sheaths at the base of the stalk, which shoots, when quite rootless, a touch is in some cases sufficient to detach from the parent stem." T. R. ARCHER BRIGGS.

## WILTSHIRE PLANTS.

It would seem as if *Carex clandestina* (*humilis*) had eloped from Salisbury Plain in a clandestine manner, for I explored very carefully ten miles of the road between Stonehenge and Heytesbury, frequently with my eyes

placed near the ground, and directed forwards, so that the minutest plant could hardly escape detection—but no *C. humilis* could I see. *C. vulgaris* was plentiful enough, and *C. paludosa* on the wet margin of a wood. The road I took led through the Winterbourn Stoke; perhaps if I had gone the Shrewton road I should have found the object of my pursuit. *Thesium humifusum*, *Asperula cynanchica*, *Poterium Sanguisorba*, and *Spiræa Filipendula*, were very abundant both at Stonehenge and on the chalk-hills near Devizes. *Koeleria cristata* was found in the same localities.

I was waiting indoors for two days, about ten miles from Marston Maisey, waiting for the weather to clear up, that I might have the gratification of gathering *Carex tomentosa*, and of sending you a specimen; but the rain detained me until the third morning, when I was obliged to leave the neighbourhood, though reluctantly, without visiting the habitat of this rare *Carex*. I found, however, *Dipsacus fullonum*, *Valeriana dioica*, and some very fine specimens of *Carex hirta*.

In the neighbourhood of Devizes I found *Ornithogalum pyrenaicum*, *Viola hirta* (past flowering), *Carex paludosa*, *Euphorbia amygdaloides*, *Vicia sylvatica*, *Pastinaca sativa*, and *Scabiosa Columbaria*. *Viola hirta* too was seen, but past flowering.

When in the neighbourhood of Heytesbury, I purposed visiting the habitat of *Cnicus tuberosus*, but had a cultivated specimen given to me which had been raised from seed procured at Boyton. The neighbourhood furnished me with *Clematis Vitalba*, *Helianthemum vulgare*, with *very hairy* sepals; *Viburnum Lantana*, *Calamintha Acinos*, and *C. Clinopodium*.

Near Bath I found *Ceterach officinarum* and *Geranium pyrenaicum*; the latter with flowers *intensely* purple, like *G. sanguineum*. In the same neighbourhood I found *Galium Mollugo*, on whose roots was growing *Orobanche caryophyllacea*. RURICOLA.

CAMPANULA TRACHELIUM. (*White-flowered variety, from Perth.*)

I had brought to me in July, 1862, from the banks of the Almond, two miles north from Perth, what I consider to be a white-flowering variety of *Campanula Trachelium*; the locality is on a sort of bank considerably removed from the river, and far from any human habitation, so that it can neither be a garden escape nor brought hither by a river flood. This is another Perth rarity. Had the young lad brought two specimens, I would have sent you one. I am not able to go so far myself. J. S.

DIPSADS.

In the tragedy of 'Sophonisba,' Massinissa, the young Prince of Numidia, who had been driven from his throne and country by Syphax, is represented saying—

> "To hunt with hungry tigers for my prey,
> And thirst with Dipsads in the burning sand."

reproaches the queen interceding for her late lord in these and other lines, descriptive of Syphax's cruelty. Does the poet mean *Dipsacus*, Teasel? Did Dr. Lindley, *emeritus* professor of botany in the University of London, and the poet Thomson, drink out of the same spring, or derive their inspiration from the same source? The great systematic botanist uses a similar terminology in the names of his Alliances.

### Extracts from Correspondence.

I have now before me in my veranda where I am writing, a plant of an Orchid apparently new, for it agrees with none of those figured by Dupetit Thouars or Richard as belonging to the African islands; it was gathered on the top of the Bruce mountain, which rises in all its majesty above me to 2800 feet. We have glorious mountain scenery here, and I enjoy scrambling among the precipices of the scarped Trap rocks, of which, and their *débris*, this entire island is composed: much progress has been made with its flora, and this year I hope to make a good raid on the *Orchidaceæ* and the *Cinchonaceæ*, which are numerous and very interesting; the Grasses and the *Cyperaceæ* I have nearly completed.

Ph. B. Ayres.

*Civil Hospital, Port Louis, Mauritius, Oct.* 5, 1862.

### Scottish Botany.—Cromarty Plants.

*Rosa spinosissima, R. villosa, R. tomentosa, Trientalis europæa* (out of bloom), *Astragalus Hypoglottis, Cochlearia anglica, Saxifraga stellaris, S. aizoides, Pinguicula vulgaris* (in seed), *Narthecium ossifragum, Triglochin palustre, T. maritima, Carex pauciflora, Galium boreale, Antennaria dioica, Festuca ovina*, var. *vivipara, Melampyrum sylvaticum, Pyrola minor, Rubus saxatilis, Circæa alpina, Gentiana campestris* (white and blue), *Mertensia maritima, Rubus Chamæmorus, Lycopodium Selago, L. alpina, Sisymbrium Sophia, Parnassia palustris.*

H. C.

### Pinus sylvestris.

Botanists in these modern critical times are *always* careful to inform us that the Scotch Pine is not a native of England; and possibly they may be right in their judgment. But they might, with about as much truth, assert that it is not a native of Scotland; for in many, if not in most parts of the northern portion of our island, it is planted. It would be more correct to describe it as a native of Great Britain, though in most places, like other useful plants and trees, it is cultivated.

Simplex.

### Rowan-Tree. (*Pyrus Aucuparia*, Mountain Ash.)

Miss Kent, in her 'Sylvan Sketches,' makes the following remarks:—"In former times this tree was supposed to be possessed of the property of driving away witches and evil spirits;" and this property is alluded to in one of the stanzas of a very ancient song, called the "Laidley Worm of Spindleton's Heuglis,"—

> "Their spells were vain, the boys returned
> To the queen in sorrowful mood,
> Crying that 'Witches have no power
> Where there is Rowan-tree wood.'"

Loudon, in his 'Arboretum,' says, "The last line of this stanza leads to the true reading of a stanza in Shakespeare's tragedy of 'Macbeth;' the sailor's wife, on the witches requesting some chestnuts, hastily answers, 'A rown-tree, witch!' but many of the editions have it, '*Aroint* thee, witch,' which is evidently a corruption." Nares and Halliwell say "Aroint thee" is correct. If your readers can say anything in support of Loudon, I wish to hear what it is.

S. B.

### Eryngium maritimum.

Is this the plant which in Drayton's 'Polyolbion' is described as

"Aiding to perform
The Cytharæan game"?

Were the candied roots called in Shakespeare's time "kissing-comfits"? "The later writers," Dr. Turner states, p. 88, part 1, "use to gyve it to bothe men and wymen that are desyres to have chylder," etc. In Dioscorides, p. 461, Matthiol. 1570, there are figures of three species, viz. *E. maritimum*, *E. campestre*, and *E. planum*.

### Berberis ilicifolia.

In a paper by Captain Thomas Hardwicke, in the 'Asiatic Researches,' vol. vi., occurs the following passage:—"*Berberis ilicifolia* grows in plenty in the valley through which the Koa-nullah has its course, now full in flower and green fruit. The fruit, when ripe, is black, and eat by the natives. The wood is of a deep yellow, and used in dyeing, but under the management of the natives the colour is not permanent."

### Hypericum Androsæmum.

(See 'Phytologist' for July, 1862.) I found this plant at a low elevation on the banks of the lake, just above the water; not very abundant, but not scarce. I have also found it in several other places here, as Ardgowan, Inverkip, Lochlong, and some others. George J. Combe.

### Kentish Botany.

As you invite the co-operation of all interested in local botany, I have forwarded a few specimens of our less common native plants, collected in the neighbourhood of Lee, Kent:—*Geranium pyrenaicum*, *Galeopsis versicolor*, *Hypericum Elodes*, *Linaria minor*, *Chenopodium olidum*, *Erigeron canadense*, *Ajuga Chamæpitys*, *Medicago maculata*, *Turritis glabra*, *Jasione montana*. James Cracknell.

*2, Smith's Cottages, Church Street, Lee.*

### Herbe Alysson, *or Wilde Gollon Grass.*

Those learned in the ancient nomenclature of plants are requested to tell the subscriber the current scientific name for the above-named herb, which Topsell, in his 'History of Beasts, Sheep, etc.' says, "is good to plant near the sheep-cotes, for it is very wholesome for sheep." S. B.

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*Communications have been received from*

John Sim; Sidney Beisly; J. S. M.; F. Crépin; John Peers; Dr. Windsor; W. Winter; W. Robinson; T. Stansfield; Charles Howie; W. Pamplin; F. Walker; T. W.; John Gibbs; T. Martin.

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### RECEIVED FOR REVIEW.

*Alpine Plants.*
*The Canadian Naturalist and Geologist.*
*Stansfield's Priced Catalogue of Ferns.*
*Elodea Canadensis. Par Fr. Crépin.*
*Un Coup d'œil sur la Florule des Environs de Han-sur-Lesse. By the same.*
*Petites Annotations à la Flore de la Belgique. By the same.*

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**With Synonyms, References, etc. etc.**

BY

## THOMAS MOORE, F.L.S., F.R.H.S.,

AUTHOR OF 'THE HANDBOOK OF BRITISH FERNS,'
'THE FERNS OF GREAT BRITAIN AND IRELAND, NATURE PRINTED,' ETC.
CURATOR OF THE CHELSEA BOTANIC GARDEN.

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## NOTICE.

The Publisher thinks it right to apprise the Purchasers of this Work that with the concluding Part there will be given Titles, Contents, Directions for the Arrangement of the Volumes, etc.; in the meantime the following statement will show exactly what the contents of each of the Nineteen Parts already issued comprise, viz.:—

PART 1—contains Synopsis of Genera, Classification, etc., pages ..... ix.—lvi.
PART 2.—Ditto Ditto Ditto pages ..... lvii.—civ.
PART 3.—Ditto Ditto Ditto pages cv.—cxxviii.; and Alphabetical Index, pages..... 1—24.
PART 4.—Alphabetical Index, pages ..... 25—72.
PART 5.—Classification, Synoptical Table of Genera, etc., pages cxxix.—cxl., and Alphabetical Index, pages..... 73—108.
PART 6.—Table of Genera, pages cxli.—cliii., and Alphab. Index, pages...109—144.
PART 7.—Alphabetical Index, pages 145—180, and Plates ..... 1—6.
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PARTS 14 & 15.—(Double Part) pages 289—312, and Plates ..... 45—54.
PART 16.—Pages 313—336, and Plates ..... 55—62.
PARTS 17 & 18.—(Double Part) pages 337—360, and Plates ..... 63—72.
PART 19.—Table of Genera, pages cliii.—clxii.; Alphabetical Index, pages 361—372, and Plates ..... 73—78.

☞ PART 20 is just ready, and it is confidently hoped that, as much of the remainder of the Work is in a forward state, there will be but little delay in issuing the future portions.

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